

SEP. 21. 2005 3:33PM

NO. 8007 P. 91

Application No.: 09/916611

Docket No.: 00306-00142-USU

EXHIBIT 4

BEST AVAILABLE COPY

408430

Attorney Docket No.: 00306-00142

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**RECEIVED
CENTRAL FAX CENTER**

In re Patent Application of:
Johnnie R. Roberts et al.

SEP 21 2005

Application No.: 09/916611

Confirmation No.: 8709

Filed: August 30, 2005

Art Unit: 1616

For: MANUFACTURE AND USE OF A
HERBICIDE FORMULATION

Examiner: A. N. Pryor

37 CFR 1.132 DECLARATION

1. I am one of the inventors of the above referenced application. I am employed by Helena Chemical Company as a Director of Product Development and Technical Services in Memphis, Tennessee. A copy of my most recent Curriculum Vitae is attached as Appendix A. In view of the above qualifications, I consider myself an expert in the field of agricultural compositions.
2. I have reviewed the office action which was mailed on July 26, 2005 and February 11, 2003. The examiner has rejected the claims based on composition of Berger disclosed in US patent 6,121,200. I have also reviewed and am familiar with the Berger patent along with the above identified application.
3. Example 20 of the Berger patent was selected because it was most similar to what is claimed in our application. It should be noted that all of Berger's examples employ glyphosate as the only herbicide. It should also be noted that all examples employ glyphosate in the isopropylamine (IPA) salt form.

HCC-11 Declaration 8-3-05 Berger.DOC

Attorney Docket No.: 00306-00142

4. In the Berger patent, Example 20, was prepared by mixing glyphosate solution (68.5 grams), water (16.1 grams), and surfactant composition (15.4 grams) to form an aqueous solution. The surfactant composition consisted of 1) ethoxylated tallowamine (13.1 grams) containing about 16-17 moles of ethylene oxide groups and about 2-5 weight percent polyethylene glycol (MW=600), and 2) a phosphated polyoxyethylene nonylphenol (2.3 grams) having 4 moles of ethylene oxide groups and a phosphomonoester to phosphodiester ratio of 76.4:14.1. In this example an aqueous solution of the isopropylamine salt of glyphosate containing 62.5 weight percent of such glyphosate salt was used as the herbicidal component and is referred to as "glyphosate solution". The isopropylamine salt of glyphosate contains 74.1% glyphosate acid. Therefore, the formulation resulting from Example 20 contains 31.7% glyphosate acid equivalent. (68.5% X 62.5% X 74.1%)

5. In the rejection dated February, 11, 2003, the examiner alleged that 2,4-D acid could be used in place of Berger's glyphosate solution as shown in all of the Berger's examples.

6. The formula was reproduced from the details provided by Berger. This formula (A) was prepared by mixing 2,4-D acid technical (31.7 grams), water (52.9 grams), and the surfactant composition as detailed in Berger's Example 20 (15.4 grams) to form an aqueous solution. After addition of the water and the surfactant composition, the solution was clear. After the addition of 2,4-D acid, the formulation became cloudy with chunks of 2,4-D technical dispersed. After 1 hour of stirring at ambient, there was still a substantial amount of undissolved 2,4-D acid in the sample. After an additional 15 minutes of stirring with temperature ramped up to 90 degrees C., the formulation was still

hazy with undissolved chunks of 2,4-D acid. After another 15 minutes of stirring at 90 degrees C, the solution finally cleared and the 2,4-D was solubilized. After 30 minutes of cooling, however, the temperature dropped to 37 degrees C and the solution was hazy again with the 2,4-D coming out of solution. For this reason, this would not be considered a viable formulation.

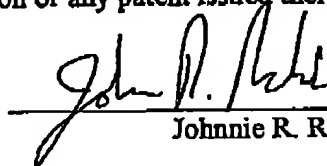
7. For the sake of completeness, Example 20 was prepared as above using glyphosate acid in place of the 2,4-D acid. This produced similar results to the formula containing 2,4-D acid. This further demonstrates our contention that the Berger reference may have off-handedly referred to glyphosate and 2,4-D acid, but no formulas provided as examples in his patent would allow the use of either 2,4-D or glyphosate in the acid form. Berger was clearly describing formulations containing amine salts of these acid herbicides.

8. Photos of the formulations are enclosed..

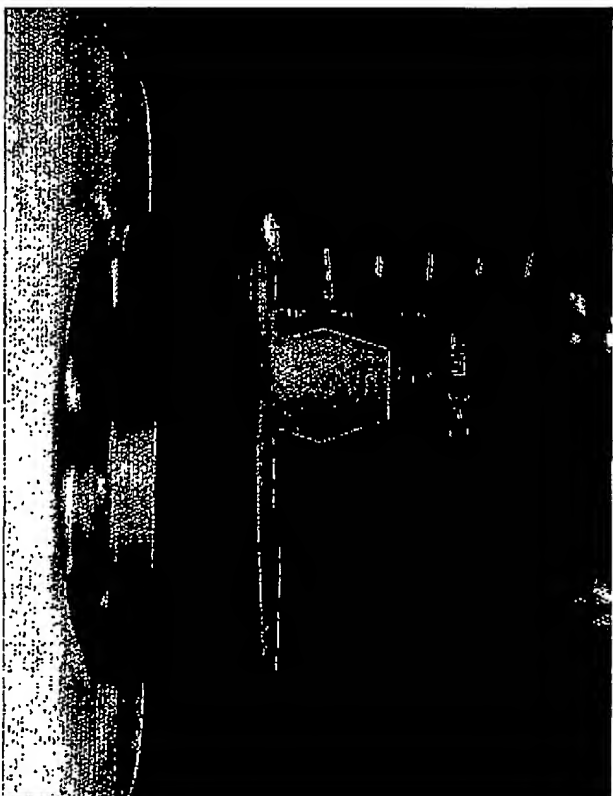
9. I hereby declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

9-19-05

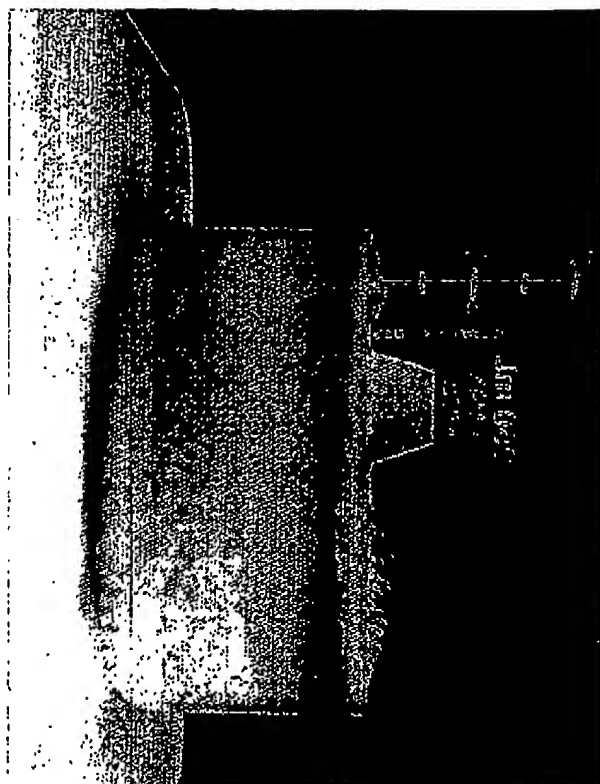
Date


Johnnie R. Roberts

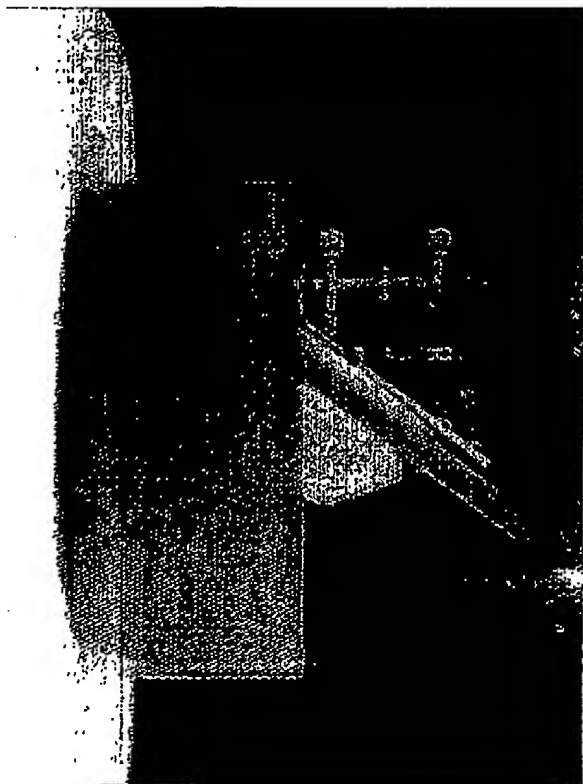
Berger Example 20, with only surfactants and water added



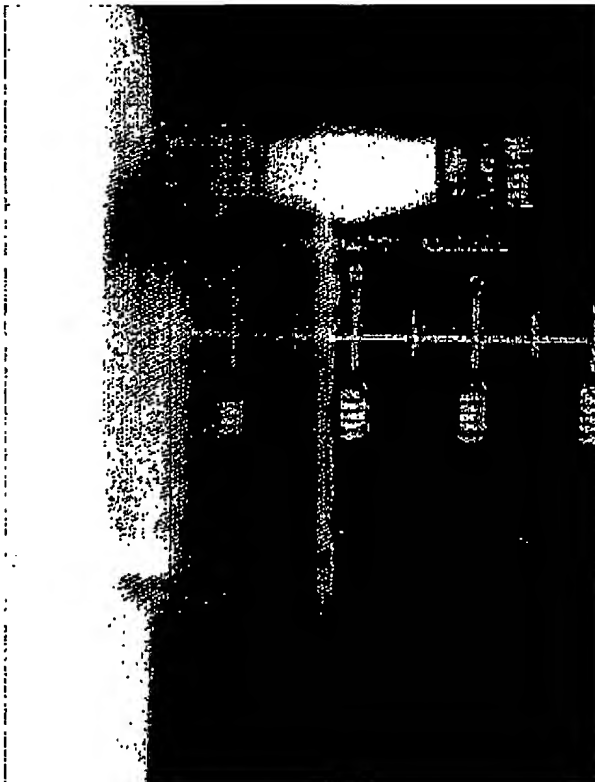
Formulation with 2,4-D Acid added



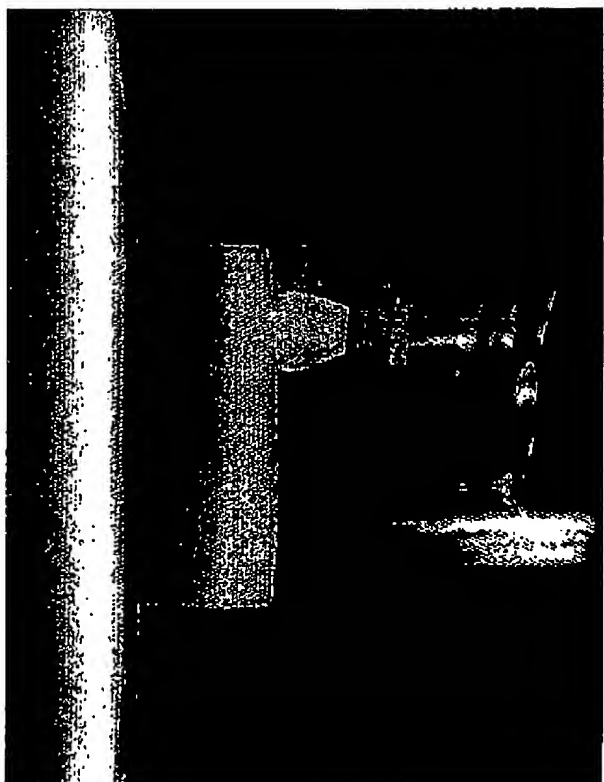
Formulation after 1 hour stirring at ambient
and another 15 minutes stirring with
temperature ramped up to 90 degrees C.



**Formulation after additional 15
minutes with Temp maintained at
90 degrees C**



Formulation after 30 minutes of
cooling (temperature now 37
degrees C)



Berger Example 20, with only surfactants and water added

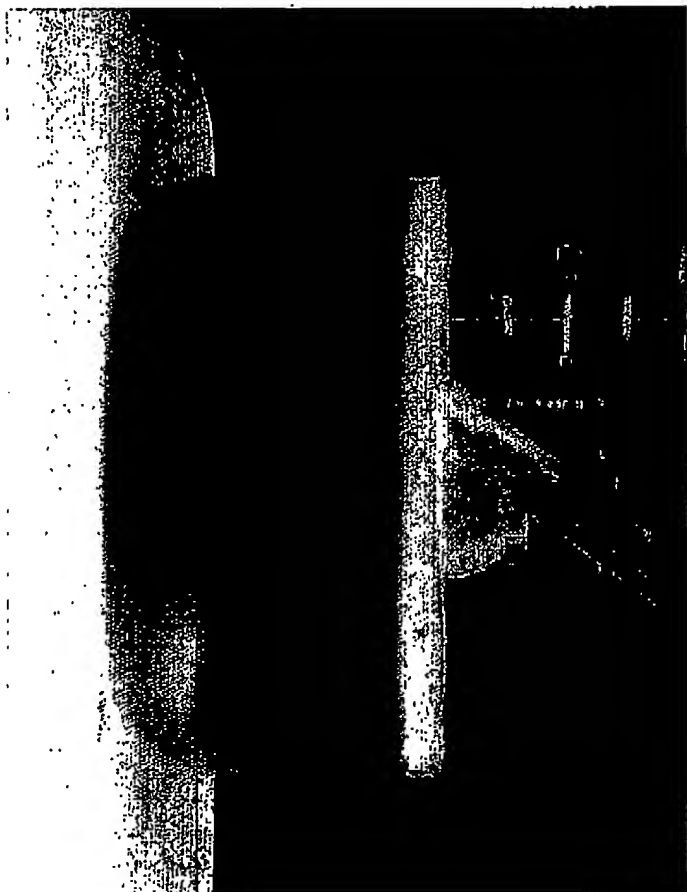


This time we are going to work with glyphosate acid

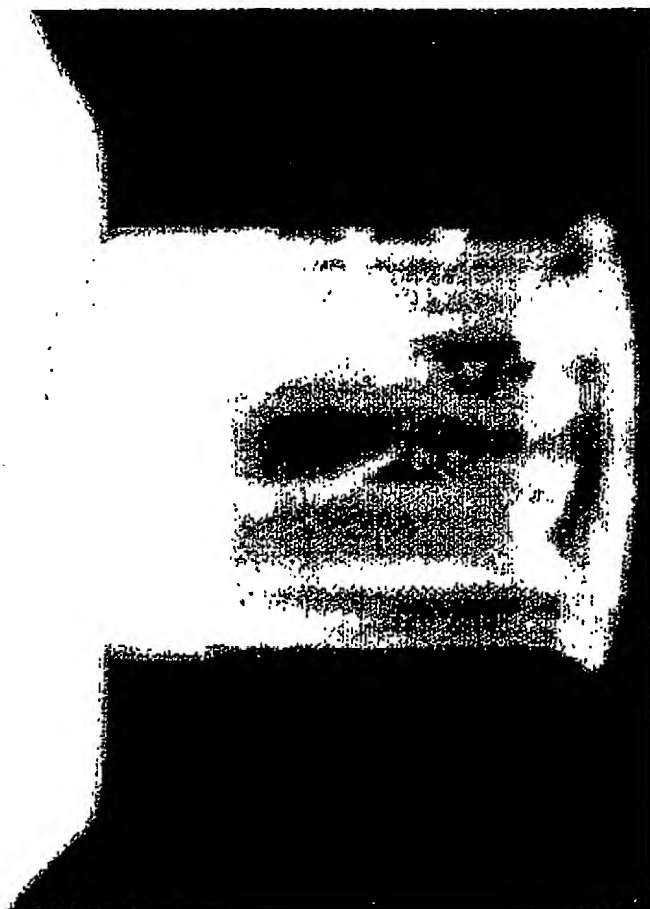
Formulation with Glyphosate Acid added



Glyphosate not dissolved after 30 minutes
with the temperature ramped from ambient
to 100 degrees C



Formulation with glyphosate acid after cooling



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☒ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☒ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER: _____**

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.